



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/997,813	12/24/97	Fahey et al.	046528/0116/

EXAMINER

Jordan

ART UNIT PAPER NUMBER

1614

9

DATE MAILED:

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

(1) Kimberly Jordan (3) Jed W. Fahey
(2) Paul Tatalay (4) Richard Post
Date of Interview February 17, 1999 (5) Anthony Tatalay

Type: ☐ Telephonic ☒ Personal (copy is given to ☐ applicant ☒ applicant's representative).

Exhibit shown or demonstration conducted: ☒ Yes ☐ No. If yes, brief description: description of benefits of induction

of phase 2 enzymes with broccoli sprouts in reducing mammary tumors

Agreement ☒ was reached with respect to some or all of the claims in question. ☐ was not reached.

Claims discussed: all in general

Identification of prior art discussed: Cho et al.

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Favorable consideration
will be given to claims and remarks which reflect the high amounts of
sulforaphane in broccoli sprouts and low amounts of potential cancer
inducing compounds. Supplemental prior art will also be reviewed
(Supplemental IDS filed 2/17/99).

(A full description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☐ 1. It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph below has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☐ 2. Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the substance of the interview unless box 1 above is also checked.

PTOL-413 (REV. 2-93)

ORIGINAL FOR INSERTION IN RIGHT HAND FLAP OFFICE WRAPPER

Examiner's Signature

Primary Examiner
Group 1610

CSC017666

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 046528/0116/JOHO

In re patent application of

Jed FAHEY et al.

Group Art Unit: 1610

Serial No. 08/997,813

Examiner: K. Jordan

Filed: December 24, 1997

For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

ASSOCIATE POWER OF ATTORNEY

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

The undersigned attorney of record hereby appoints Richard C. Peet, Registration No. 35,792 as associate attorney with full power of association, substitution and revocation, to prosecute the above-identified application and transact all business in the Patent and Trademark Office connected therewith.

All correspondence should continue to be sent to the undersigned.

Respectfully submitted,



Bernhard D. Saxe
Reg. No. 28,665

February 17, 1999
Date

FOLEY & LARDNER
Suite 500
3000 K Street, N.W.
Washington, DC 20007-5109
(202) 672-5300

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TECH CENTER 1600/2900
59 FEB 17 PM 1:51



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY/ROCKET/NO.
08/997,813	12/24/97	FAREY	

FOLEY & LARDNER
3000 K STREET NW
SUITE 500
WASHINGTON DC 20007-5109

HM12/0301

JORDAN, K. EXAMINER

ART UNIT	PAPER NUMBER
1674	

DATE MAILED: 03/01/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Notice of Allowability	Application No. 08/997,813	Applicant(s) Fahey et al.
	Examiner Kimberly Jordan	Group Art Unit 1814

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

☒ This communication is responsive to Paper Nos. 8-9

☒ The allowed claim(s) is/are 48-57, 68, 69, and 72-79

☐ The drawings filed on _____ are acceptable.

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☐ Applicant MUST submit NEW FORMAL DRAWINGS

☐ because the originally filed drawings were declared by applicant to be informal.

☐ including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. _____

☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948


☒ Notice of Informal Patent Application, PTO-152

☐ Interview Summary, PTO-413

☐ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

☐ Examiner's Statement of Reasons for Allowance


KIMBERLY JORDAN
 PRIMARY EXAMINER
 ART UNIT 1814

Sheet 1 of 1

FORM PTO-1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

LIST OF REFERENCES CITED BY APPLICANTS
(Use several sheets if necessary)

Date Submitted to PTO: January 11, 1999

ATTY DOCKET NO.
48589116

SERIAL NO.
08/897,813

APPLICANTS
Jed FAHEY et al.

FILING DATE
December 24, 1997

GROUP
1814

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					
	AL					
	AM					

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
BA					
BB					

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

CA	S. Meyerowitz	Sprout It! One Week From Seed to Salad, Steve Meyerowitz (The Sprout House, Inc., Great Barrington, MA), pages 20-21, 58, 85-86, 120-123, 1993.				
CB						
CC						

EXAMINER *[Signature]* DATE CONSIDERED 2/25/99

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 503; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicants



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

HM12/0301

FOLEY & LARDNER
3000 K STREET NW
SUITE 500
WASHINGTON DC 20007-5109

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/997,813	12/24/97	020	JORDAN, K	1614 03/01/99
First Named Applicant	FAHEY, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
1 046528/0116/	424-094.100	P60	UTILITY	YES	\$605.00	06/01/99

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

IN THE UNITED STATES PATENT AND TRADE MARK OFFICE

In re application of : Group Art Unit: 1614
 Jed FAHEY et al. : Examiner: K. Jordan
 Serial No.: 08/997,813 : Atty. Dkt. No. 46585/116
 Filed: December 24, 1997:
 For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§1.56, 1.97(c) and 1.17(p)

Assistant Commissioner for Patents
 Washington, DC 20231

Sir:

Included with the attached Form PTO-1449 are documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 C.F.R. § 1.56.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a prima facie prior art reference against the claims of the present application.

Applicants respectfully request that the documents be considered and made of record in the present application and that an initialled copy of form PTO-1449 be returned in accordance with M.P.E.P. §609.

Applicants submit this document under 37 C.F.R. §1.97(e), before the mailing date of either a final action under §1.113 or of a Notice of Allowance under §1.311. Accordingly, the fee set forth in §1.17(p) of \$240 is attached, and it is believed that no additional fees are required. However, the Commissioner is hereby authorized to charge any deficiency or to credit any overpayments to the Deposit Account No. 19-0741.

February 17, 1999
 Date

POLEY & LARDNER
 3000 K Street, NW, Suite 500
 Washington, DC 20007-5109
 (202) 672-5300

Respectfully submitted,

Richard C. Peet
 Reg. No. 35,792

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FEB 23 1999

MATRIX-CUSTOMER
 SERVICE CENTER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Jed FAHEY *et al.*

Serial No. : 08/997,813

Filing Date: December 24, 1997

For : CANCER CHEMOPROTECTIVE FOOD PRODUCTS

Receipt is hereby acknowledged of the accompanying:

Information Disclosure Statement Under 1.197(c); 1449; 3 references; Check No. 2452
\$240.00; Associate Power of Attorney

046585/0116

Due: N/A

RCP:wh
Insp. by:

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99 MAR 17 AM 11:56



UNITED STATES DEPARTMENT OF COMMERCE
 Patent and Trademark Office
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

APPLICATION NUMBER 06/337,813	FILING DATE 03/24/97	EXAMINER FOLEY	FIRST NAMED APPLICANT T	ATTORNEY/AGENT NO. 100
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HM42/0322

FOLEY & LARDNER
 3000 K STREET NW
 SUITE 500
 WASHINGTON DC 20007-5109

TORT EXAMINER

APPLICANT	PAPER NUMBER
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03/30/99

DATE MAILED:

#12

Response to Rule 312 Communication

- ☐ The petition filed _____ under 37 CFR 1.312(b) is granted. The paper has been forwarded to the examiner for consideration on the merits.

 Director,
 Patent Examining Group _____

- ☐ The amendment filed _____ under 37 CFR 1.312 has been considered, and has been:
- ☐ entered.
 - ☐ entered as directed to matters of form not affecting the scope of the invention (Order 3311).
 - ☐ disapproved. See explanation below.
 - ☐ entered in part. See explanation below.

☒ Note attached IDS

KIMBERLY JORDAN
 PRIMARY EXAMINER
 GROUP 1000-
 1010

[illegible]

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PART B—ISSUE FEE TRANSMITTAL

Complete and mail this form, together with appropriate fees.

Box ISSUE FEE
Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

FOLEY & LARDNER
3000 K STREET NW
SUITE 500
WASHINGTON DC 20007-5109

HM12/0301

Note: The certificate of mailing below can only be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/997,813	12/24/97	020	JORDAN, K	1614 03/01/99
First Named Applicant: FAHEY, 35 USC 154(b) term ext. = 0 Days.				

TITLE OF INVENTION: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPL. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
1 046528/0116/	424-094.100	P60	UTILITY	YES	\$605.00	06/01/99

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.303). Use of PTO form(s) and Customer Number are recommended, but not required.

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" indication form PTO/SB/47) attached.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 FOLEY & LARDNER

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: JOHNS HOPKINS SCHOOL OF MEDICINE

(B) RESIDENCE (CITY & STATE OR COUNTRY)

BALTIMORE, MARYLAND, USA

Please check the appropriate assignee category indicated below (will not be printed on the patent)

☐ Individual ☒ Corporation or other private group entity ☐ government

4a. The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks):

☒ Issue Fee☐ Advance Order - # of Copies

4b. The following fees or deficiency in these fees should be charged to:

DEPOSIT ACCOUNT NUMBER 19-0741

(ENCLOSE AN EXTRA COPY OF THIS FORM)

☐ Issue Fee☐ Advance Order - # of Copies

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee to the application identified above.

(Authorized Signature) Richard C. Peet Reg. No. 35,799 (Date) April 8, 1999

NOTE: The Issue Fee will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington D.C. 20231

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

04/09/1999 TLHREZ 06000036 08997813

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605.00 DP

APR 9 1999

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PTOL-858 (REV.10-98) Approved for use through 06/30/99. OMB 0651-0033

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

CSC017676

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 046528/0116/JOHO

In re patent application of

Jed FAHEY et al.

Group Art Unit: 1614

Serial No. 08/997,813

Examiner: K. Jordan

Filed: December 24, 1997

For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

SUPPLEMENTAL RESPONSE UNDER 37 C.F.R. § 1.111

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

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Publishing Division

Applicants thank Examiner Jordan for ~~APR 10 1999~~ ^{APR 10 1999} facilities extended during an interview held at the USPTO on February 17, 1999. Following up on Examiner Jordan's request, we submit herewith a document discussed at the interview. At the interview, Dr. Paul Talalay reviewed the contents of his Rule 132 Declaration submitted with the Amendment and Request for Reconsideration filed January 25, 1999. Dr. Talalay discussed the properties of cruciferous sprouts obtained by the methods described in the instant application.

Dr. Talalay noted during the interview that cruciferous sprouts can be selected which contain high concentrations of anticarcinogenic Phase 2 inducer activity. These cruciferous sprouts also contain low levels of indole glucosinolates which have potentially carcinogenic Phase I inducer activity. The references listed in the document attached herewith show that an indole glucosinolate designated indole-3-carbinol (I3C) enhances carcinogenesis in animal models. Indole glucosinolates are found in market-stage broccoli, but in very low concentrations in cruciferous sprouts.

Serial No. 08/997,813

Applicants also attach herewith an executed copy of Dr. Paul Talalay's Rule 132 declaration submitted with the Amendment and Request for Reconsideration filed January 25, 1999.

For the reasons discussed in the Amendment and Request for Reconsideration filed January 25, 1999, as well as those discussed above, it is respectfully asserted that the prior art does not teach or suggest methods for increasing the chemoprotective amount of Phase 2 enzymes in a mammal by administering certain cruciferous sprouts which contain high Phase 2 enzyme inducing potential and non-toxic levels of indole glucosinolates.

It is believed that all claims are in condition for allowance. Reconsideration of all rejections and a notice of allowance are respectfully requested. Should there be any questions concerning this application, Examiner Jordan is urged to contact the undersigned at the telephone number listed below.

Respectfully submitted,

February 26 1999
Date

Richard C. Peet
Richard C. Peet
Reg. No. 35,792

FOLEY & LARDNER
Suite 500
3000 K Street, N.W.
Washington, DC 20007-5109
(202) 672-5300

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket No. 046585/0116

In re patent application of

Jed FAHEY et al.

Serial No. 08/997,813

Filed: April 11, 1997

For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

DECLARATION OF PAUL TALALAY
UNDER 37 C.F.R. §1.132

RECEIVED
TECHNICAL CENTER 1801/2000
93FEB25 PM 2:45

I, Paul Talalay, being duly warned, hereby declare and say:

1. I am a citizen of the United States of America, and reside at 5512 Boxhill Lane, Baltimore, MD 21210.

2. I am John Jacob Abel Distinguished Service Professor, Department of Pharmacology and Molecular Sciences, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205. I am a member of the National Academy of Sciences of the United States, a Member of the American Philosophical Society founded in Philadelphia for the promotion of useful knowledge, and a former Professor of the American Cancer Society.

3. I am a physician and medical scientist who has been involved for the last 20 years in devising chemical and dietary strategies for reducing the risk of human cancer.

4. I am a co-inventor named in U.S. application serial No. 08/997,813 ("the application"). In relation to the application, I have reviewed an Official Action, mailed September

Serial No. 08/997,813

24, 1998, and the prior art cited therein, and I make the following observations.

5. I am a named inventor of U.S. Patent No. 5,411,986 ("the '986 patent"). The Examiner asserts that the claims of the instant application are obvious over the teachings of the '986 patent. However, the '986 patent fails to teach or suggest that broccoli sprouts, or other cruciferous sprouts, are a source of sulforaphane or phase 2 enzyme inducer activity.

6. Examples 2 and 3 of the '986 patent teach that broccoli is a source of sulforaphane. Market stage, mature broccoli was used in the experiments described in Examples 2 and 3 of the '986 patent. The '986 patent therefore fails to teach or suggest that broccoli sprouts, or other cruciferous sprouts are a source of sulforaphane or Phase 2 inducer activity. In fact, we were extremely surprised to subsequently find that broccoli and other cruciferous sprouts contain high concentrations of Phase 2 enzyme inducer activity.

7. The claimed methods of the application provide food products that not only contain unexpectedly high levels of anticarcinogenic Phase 2 inducer activity, but also contain unexpectedly low levels of potentially carcinogenic Phase 1 enzyme inducer activity. The prior art reference relied on by the examiner does not teach or suggest these unexpected

Serial No. 08/997,813

attributes of the human food product made by the claimed methods. The sprouts and their extracts are therefore both qualitatively and quantitatively radically different in their content of enzyme inducer activities compared to mature, market stage vegetables.

8. There is a continuing proliferation of epidemiological studies that demonstrate an inverse relation between the quantity of vegetables consumed and the risk of cancer. Furthermore, several of these studies emphasize the protective effect of cruciferous vegetables, specifically, and demonstrate a dose dependence of the magnitude of the effect. Consumption of >425 g/wk of mature, market stage Brassica sp. reduces the cancer odds ratio to approximately 0.5 (50% risk reduction) for colon cancer in comparison to the consumption of <125 g/wk. Kune et al., *Nutr. Cancer* 2: 21-42 (1987). The odds ratios for colon cancer in relation to vegetable consumption was determined. Graham et al., *J. Natl. Cancer Inst.* 61: 709-714 (1978). Individuals who ate an average of 0-20, 21-40, 41-60 and more than 61 servings per month had odds ratios of 1.00, 0.66, 0.57 and 0.47 respectively. If one extrapolates the results of Graham, a 75% reduction in cancer risk would require consumption of perhaps 750 g (ca. 1.5 lbs.) of vegetables per day. The results of 7 cohort studies and 87 case-control studies have been summarized. See Verhoeven et al., *Cancer Epid. Biomarkers & Preventions* 5: 733-748 (1996). Cohort studies showed: inverse associations between the consumption of cabbage, cauliflower and broccoli and risk of lung cancer;

Serial No. 08/997,813

between consumption of brassica vegetables and risk of stomach cancer; between broccoli consumption and risk of all cancers taken together and between brassica consumption and the occurrence of second primary cancers. They conclude that a high consumption of brassica vegetables is associated with a decreased risk of cancer.

9. It is impractical for most individuals to consume the large quantities of market stage broccoli or other vegetables to achieve maximum protection, because the quantity of fiber and other phytochemicals that need to be consumed can cause bowel irritation and/or flatulence.

10. Cruciferous sprouts and sprout extracts prepared according to the claimed methods provide 20 to 50-fold higher levels of Phase 2 enzyme inducer activity than mature market stage cruciferous vegetables. The data from Tables 1 and 3 of the application are summarized in APPENDIX A1 attached hereto. A significant health benefit can be realized through ingestion of small quantities of cruciferous sprouts, or sprout extracts, prepared according to the claimed methods. The same health benefits can only be realized, if at all, through the ingestion of intolerably large quantities of market stage vegetables that contain significantly lower concentrations of anticarcinogenic Phase 2 inducer activity compared to the sprouts prepared according to the application.

Serial No. 08/997,813

11. For purposes of illustration, we determined in one experiment that 3 grams of 3-day old broccoli sprouts, or 150 milligrams of a lyophilized hot water extract made from 3-day old broccoli sprouts, contain the same quantity of Phase 2 enzyme inducer activity as 150 grams of mature market stage broccoli. Phase 2 enzyme inducer activity is measured in the Hepa 1c1c7 murine hepatoma cells grown in 96-well microtiter plates according to the method of Prochaska et al., *Anal. Biochem.* 169: 328-336 (1988). One unit of Phase 2 enzyme inducer activity is defined as the amount that when added to a single microtiter well, doubles the quinone reductase activity. The quantity of mature market stage broccoli, sprouts and sprout extracts that must be consumed to realize the same health benefit (2-1/4 million units of anticarcinogenic Phase 2 enzyme inducer activity) is shown in APPENDIX A2 attached hereto.

12. The methods of the application also provide food products comprised of certain cruciferous sprouts and sprout extracts that do not contain significant levels of indole glucosinolates which generate Phase 1 inducers. Phase 1 enzymes (cytochromes P-450) functionalize compounds, usually by oxidation or reduction. Although one role of Phase 1 enzymes is to detoxify xenobiotics, several cytochromes P-450 activate procarcinogens to highly reactive ultimate carcinogens.

Serial No. 08/997,813

13. Attached hereto as APPENDIX A3 are graphs showing comparative paired ion chromatographs of broccoli sprouts and mature market stage broccoli. The paired ion chromatographs were prepared according to the method developed in our laboratory by Prestera et al., *Anal. Biochem.* 239: 168-179 (1996). Shaded peaks on the chromatograph represent glucoraphanin, glucoerucin, glucobrassicin and neoglucobrassicin, respectively. The former two glucosinolates are alkylthioglucosinolates with potent Phase 2 enzyme inducer activity and are the predominant glucosinolates found in sprouts. The latter two glucosinolates are indole glucosinolates which predominate in mature market stage broccoli.

14. Recent studies have shown that sulforaphane (the hydrolysis product of glucoraphanin which is the principal inducer precursor in sprouts) has a number of favorable properties with respect to its use as a chemoprotector. Sulforaphane inhibits mammary tumor formation in female Sprague-Dawley rats treated with single doses of dimethylbenzanthracene. Zhang et al., *Proc. Natl. Acad. Sci. USA* 91: 3147-3150 (1994). Sulforaphane shows exceedingly potent inhibitory activity against DMBA-induced neoplastic mammary lesions in mouse mammary gland explants in culture: 84, 56, and 34% inhibition at 1 μ M, 100 nM, and 10 nM concentrations, respectively. Gerhauser et al., *Cancer Research* 57: 272-278 (1997). Sulforaphane is not itself genotoxic (i.e., does not produce unscheduled DNA synthesis) but inhibits the genotoxicity of N-nitrosodimethylamine (NDMA) in *Salmonella*

Serial No. 08/997,813

typhimurium and NDMA-induced unscheduled DNA synthesis in mouse hepatocytes. Barcelo et al., *Carcinogenesis* 17: 277-282 (1996). Sulforaphane has the unusual property of inhibiting cytochrome P-450 type 2E1 which is involved in the metabolic activation of carcinogenic nitrosamines. Barcelo et al., *Carcinogenesis* 17: 277-282 (1996).

15. The indole glucosinolates do not give rise to isothiocyanates upon myrosinase hydrolysis because the indole isothiocyanates are unstable. One major degradation product is indole-3-carbinol which has attracted a great deal of recent attention. Although this compound exerts anticarcinogenic activity in some experimental tumor systems when administered before the carcinogen, it has obvious tumor-promoting properties if given after the carcinogen. Indole-3-carbinol has a number of other undesirable properties that raise questions with respect to the advisability of its use in chemoprotection. Thus, indole-3-carbinol is: (1) a very weak Phase 2 enzyme inducer; (2) is converted (especially at the acid pH prevailing in the stomach) to dimeric and trimeric condensation products that bind with very high affinity to the Ah receptor and thereby induce certain cytochromes P-450 that activate carcinogens, i.e., it is a bifunctional inducer that elevates both Phase 1 and Phase 2 enzymes; and (3) upon chronic administration indole-3-carbinol enhances carcinogenic activity. Such continuous administration represents a likely scenario in any chemoprotective strategy, and

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410 502 6818:#11/11

Serial No. 08/997,813

indole glucosinolates are therefore not very desirable agents for these purposes.

16. The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

18 February 1999
Date

Paul Talalay
Paul Talalay

Exhibit I

Phase 2 Enzyme Inducer Activity of Broccoli

Data [except for frozen] from Tables 1 & 3 of Patent Application

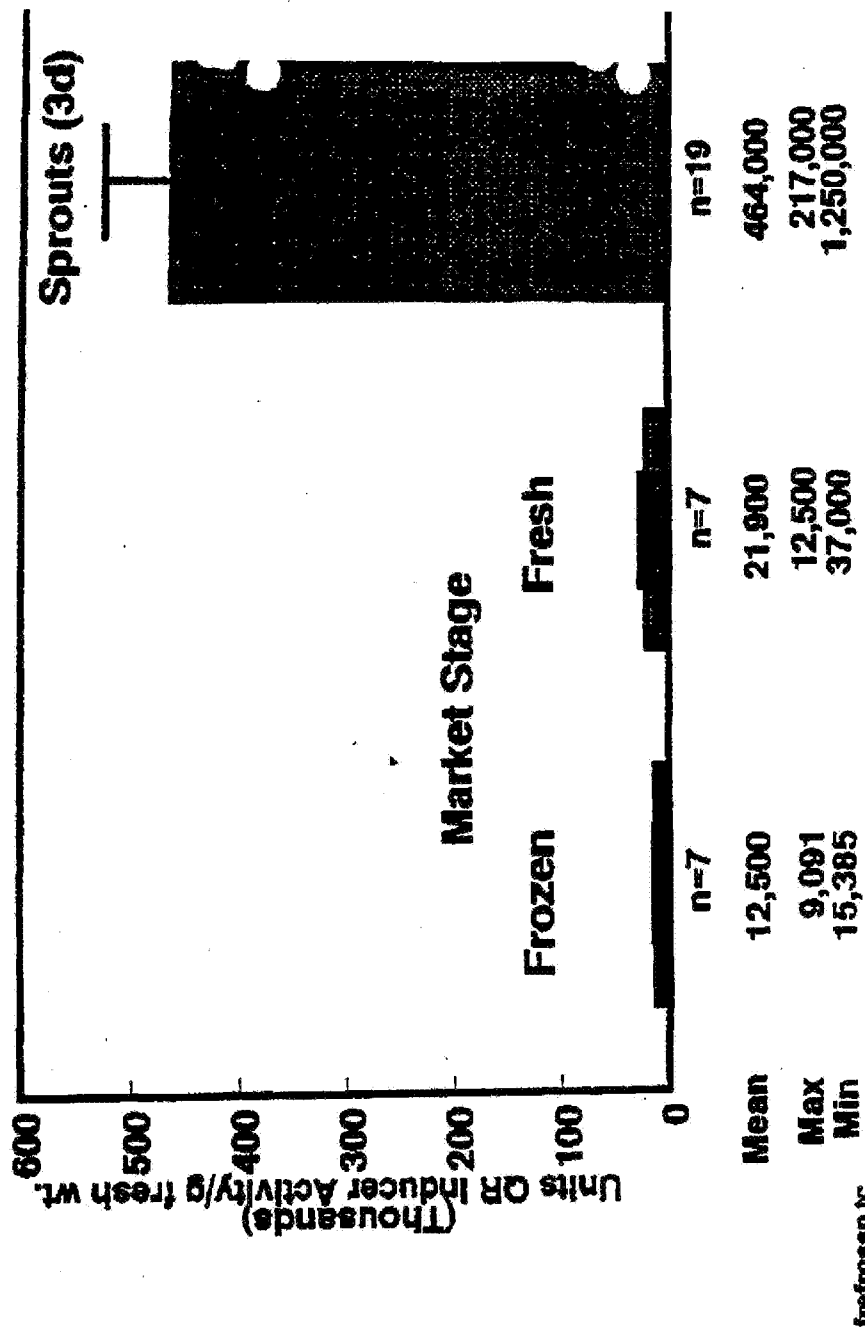
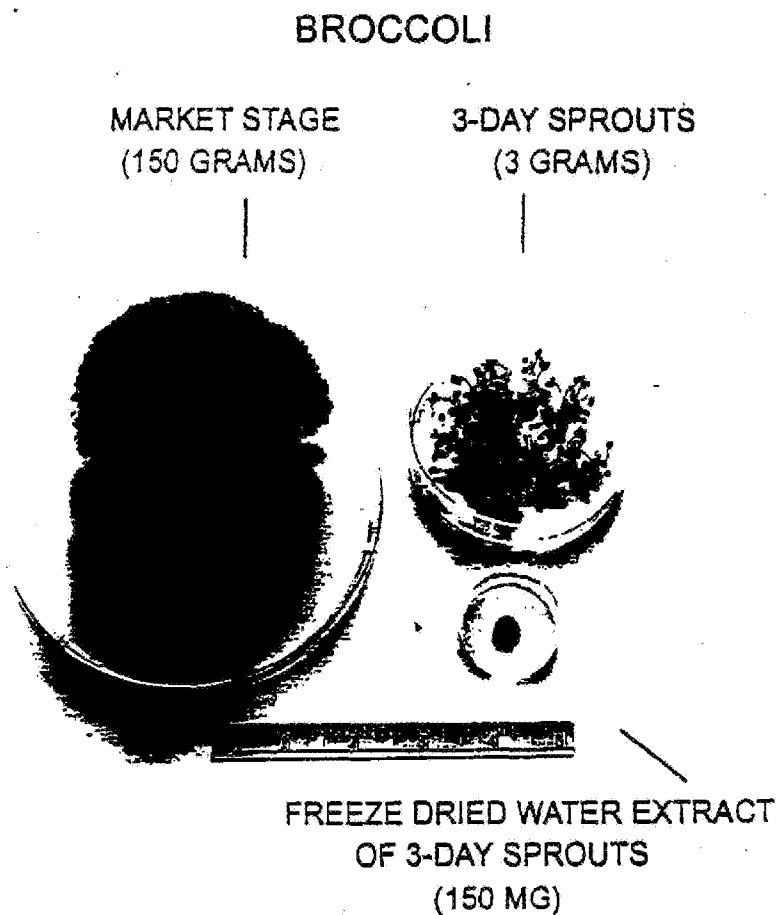


Exhibit 2



ALL PREPARATIONS CONTAIN THE SAME QUANTITY
(2-1/4 MILLION UNITS) OF ANTICARCINOGENIC
ENZYME INDUCER ACTIVITY

FIGURE 1

Exhibit 3

PAIRED ION CHROMATOGRAPHY SHOWING GLUCOSINOLATE PROFILES OF BROCCOLI (cv. SAGA)

5 DAY SPROUTS

Glucoraphanin

5.5 mg

990 Units

Main Peak

Amount analyzed
(fresh wt. equiv)

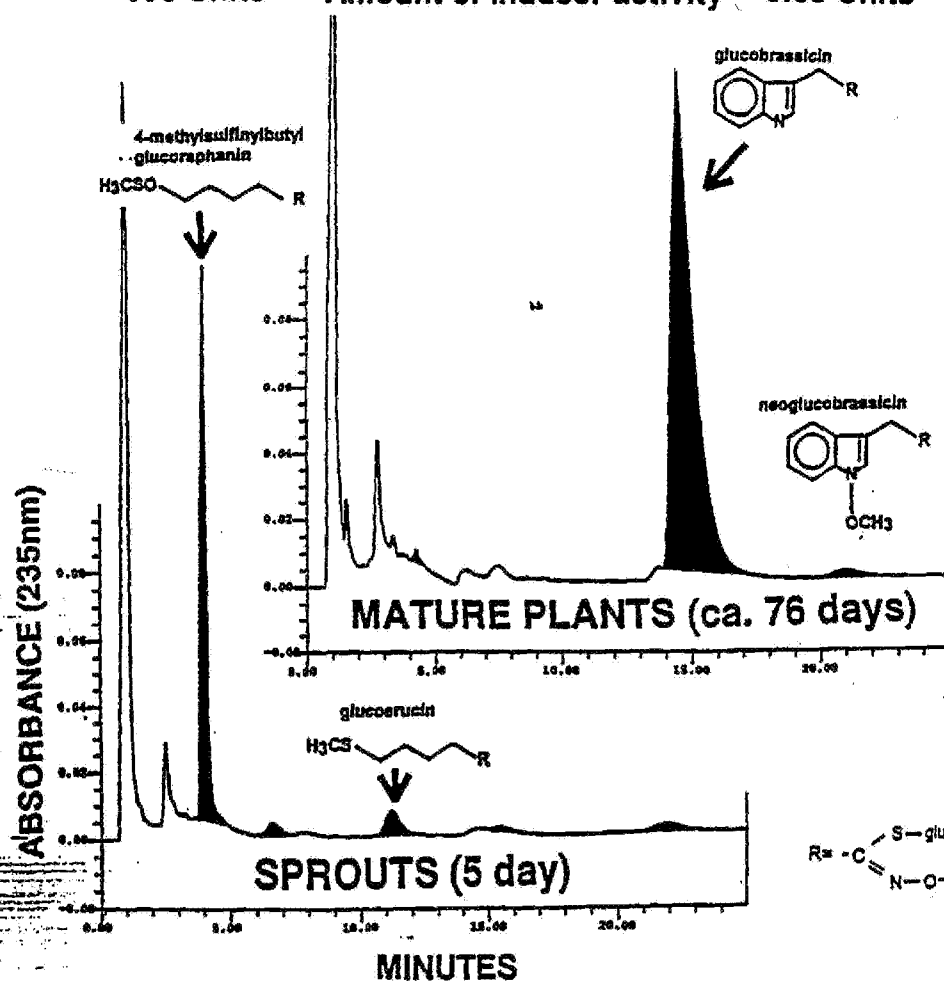
Amount of inducer activity

MATURE PLANTS

Glucobrassicin

14.6 mg

9.38 Units



7560
5/20/99
95



C-1614 B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Jed FAHEY *et al.*



Attorney Docket No.: 046585/0116

Allowed: March 1, 1999

Batch No.: P60

Serial No.: 08/997,813

Group Art Unit: 1614

Filed: December 24, 1997

Examiner: K. Jordan

For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

LETTER

Assistant Commissioner for Patents
Washington, D.C. 20231

SIR:

The Issue Fee Transmittal, and payment of the Issue Fee filed on April 8, 1999 indicated that Applicant was a Small Entity with a \$605.00 Fee Due. Small entity status no longer applies to Applicant. Hence, Applicant encloses a check in the amount of \$605.00 to cover the Issue Fee payment as a large entity (\$1,210.00).

05/05/1999 SSANDAR1 00000015 08997813

01 FC:242

605.00 DP

Respectfully submitted,

April 30, 1999
Date

Richard C. Peet
Richard C. Peet
Reg. No. 35,792

Foley & Lardner
3000 K Street, N.W., Suite 500
Washington, D.C. 20007-8696

002.199987.1

-1-

CSC017693



UNITED STATES DEPARTMENT OF COMMERCE

Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/997,813	12/24/97	FAHEY	J 046528/0116/

FOLEY & LARDNER
3000 K STREET NW
SUITE 500
WASHINGTON DC 20007-5109

HM42/0520

EXAMINER

JORDAN, K

ART UNIT

PAPER NUMBER

1614

14

DATE MAILED:

05/20/99

Response to Rule 312 Communication

- ☐ The petition filed _____ under 37 CFR 1.312(b) is granted. The paper has been forwarded to the examiner for consideration on the merits.

Director,
Patent Examining Group _____

- ☒ The ^{supplemental} amendment filed February 26, 1999 under 37 CFR 1.312 has been considered, and has been:

- ☒ entered.
☐ entered as directed to matters of form not affecting the scope of the invention (Order 3311).
☐ disapproved. See explanation below.
☐ entered in part. See explanation below.

Kimberly Jordan
KIMBERLY JORDAN
PRIMARY EXAMINER
GROUP 1200-
1610

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No. 046585/0116

In re patent application of

Jed FAHEY et al.

~~Serial No. 08/577,013~~

Filed: December 24, 1997

For: CANCER CHEMOPROTECTIVE FOOD PRODUCTS

Allowed: March 1, 1999

Batch: P60

Group Art Unit: 1614

Examiner: K. Jordan

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INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §1.56

Assistant Commissioner for Patents
 Washington, D.C. 20231

*References placed in
 file, not considered. No
 fee & no request for
 reconsideration filed
 PM 8/00*

RECEIVED
 Publishing Division
 NOV 3 0 1999

Sir:

07
 TECH4

Submitted herewith on a modified Form PTO-1449 is a listing of documents known to applicant in order to comply with applicant's duty of disclosure pursuant to 37 C.F.R. §1.56, and in view of MPEP § 2001.06(c). The listed documents became known to applicant incident to a suit for infringement of U.S. Patent No. 5,725,895 filed in the District Court of Delaware. The above-captioned patent application is a divisional of the patent application which issued as U.S. Patent No. 5,725,895.

The accompanying Form PTO-1449 lists several papers and publications that were provided during the course of discovery in the infringement suit. In addition, the defendants have recently filed a request for reexamination of U.S. Patent No. 5,725,895 citing several of the listed papers and publications. A copy of the request for reexamination is provided herewith.

Applicant believes that the documents listed in the accompanying Form PTO-1449 do not adversely impact the patentability of the claims of the above-captioned application. However, out of an abundance of caution, and in compliance with the duty of disclosure, applicant hereby brings these documents to the attention of the Patent Office.

In the course of the infringement suit, the defendants also have lodged several affirmative defenses and counterclaims, including (1) invalidity and unenforceability for failure to comply with the provisions of 35 U.S.C. §§ 101, 102, 103, and 112, (2) breach

U.S. Serial No. 08/997,813

Attorney Docket No. 046585/0116

of the duty to disclose material information, and (3) patent misuse. Provided herewith is a copy of the defendants' "Answer, Affirmative Defenses and Counterclaim," which contains these allegations.

Applicant believes that the foregoing affirmative defenses and counterclaims are without merit. However, out of an abundance of caution, and in compliance with the duty of disclosure, applicant hereby brings these documents to the attention of the Patent Office.

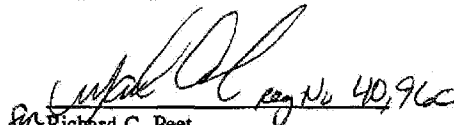
The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present patent or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a prima facie prior art reference against the claims of the present patent.

Since a Notice of Allowance has been mailed in this application, it is respectfully requested that this Information Disclosure Statement and the listed documents be placed in the file of the present application, pursuant to 37 C.F.R. §1.97(i).

Respectfully submitted,

October 19, 1999

Date


Richard C. Peet
Registration No. 35,792

FOLEY & LARDNER
3000 K Street, NW, Suite 500
Washington, DC 20007-5109
(202) 672-5300

If there are any fees due which are not enclosed herewith, including any fees required for an extension of time, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account Number 19-0741.

SHEET 1 of 2			
FORM PTO 1449 (modified)			
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 046385/0116	SERIAL NO. 08/977,813
LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)		APPLICANT Jed FAHEY et al.	FILED OCT 19 1999 PATENT & TRADEMARK OFFICE
Date Submitted to PTO: October 19, 1999		FILING DATE December 24, 1997	GROUP 1614
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)			
			The Sproutletter, Nov. - Dec. 1984, No. 25.
			"The Sproutletter" May-June 1981, No. 4.
			Roy Bruder, Ph.D., Discovering Natural Foods, (including pgs.203-209), Woodbridge Press, 1982.
			Brian R. Clement, Hippocrates Health Program, (including pgs 7-11), Hippocrates Publications, 1989.
			Jethro Kloss, The Back to Eden Cookbook, pgs. 61-61, Woodbridge Press, 1974.
			Steve Meyerowitz, Sproutmann Kitchen Garden Cookbook, The Sprouhouse, Inc., pgs. 178-179, 290, 1994.
			Steve Meyerowitz, Sprout It, One week from Seed to Salad, The Sprouhouse, Inc., (including pgs. 84-85, 120-123), June 1994.
			Steve Meyerowitz, The Complete Guide to Sprouting, Sprouts The Miracle Food, Sproutman Publications, (including pgs. 121-2), May 1998.
			Esther Munroe, Sprouts to Grow and Eat, (including pgs. 2-15), Dec. 1974.
			Jean Hewitt, The New York Times "New Natural Foods Cookbook", Aven Books, pgs. 200-203, 1982.
			Martha H. Oliver, Add a Few Sprouts To Eat Better for Less Money, Pivot Original Health Books, (including pgs. 52-53, 118-119), 1975.
			James C. Schmidt, Horticulture Facts, "Growing Sprouts Indoors", (Rev. 4/81).
			Angnes Toms, The Joy of Eating Natural Foods, The Complete Organic Cookbook, pgs. 318-319, Nov. 1971.
			Karen Cross Whyte, The Complete Sprouting Cookbook, Troubador Press, (including pgs. 57-59), 1973.
			Ann Wigmore, The Sprouting Book, Avery Publications, (including pgs. 29-37), 1986.
			Debra Schwarze, Growing Sprouts, Neb Guide, Jan. 1989.
			John Tobe, Sprouts Elixir of Life", 1970.
			Alicia Bay Laurel, "Living on the Earth" a Vintage Book.
			David Ehrlich with George Wolf, Foreward by Peter Albright, M.D., "The Bowell Book", Schocken Books, 1981.
			"The Good News Sprouts Recipe Book" ISGA, Aug. 1992.
			Ann Wigmore, "The Hippocrates Diet and Health Program", Avery Publications, 1984.
			Sprouting Publications Oahspe Foundation, Health and Sprouting Supplies.
			Sproutletter, #41, Summer, 1989.
			The Sproutletter, Number 27, March-April 1985.
			Steve Meyerowitz, Growing Vegetables Indoors", 1983.
			The Sproutletter, Number 24, Sept.-Oct. 1984.
			The Sproutletter, Issue 33, Spring 1987.
			The Sproutletter, Number 28, May-June 1985.
			The Sproutletter, Number 26, Jan-Feb 1985.
			Sprouting Publications, Health and Sprouting Supplies.

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SHEET 2 of 2		
FORM PTO 1449 (modified)		ATTY DOCKET NO. 046585/0116
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. 08/977,813
LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)		APPLICANT Jed FAHEY et al.
Date Submitted to PTO: October 19, 1999		FILING DATE December 24, 1997
		GROUP 1614
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)		
		The Sproutletter, Number 29, July - August 1985.
		Sproutletter, #40, Spring, 1989.
		The Sproutletter, Number 32, Summer.
		Sproutletter, #44, March 1991.
		Sproutletter, #36, Winter, 1987-88.
		Sproutletter, #39, Fall, 1988.
		Sproutletter, #43, May/June 1990.
		Sproutletter, #38, Summer, 1988.
		Sprouting Publications Health and Sprouting Supplies.
		Spring Sale for Members Only.
		The Sproutletter, A newsletter of useful and unusual information on sprouts, raw foods and nutrition.
		The Sproutletter, #31, Winter.
		Deirdre Purdy, ed., The Summer Kitchen, A Farmers' Market Cookbook, 1981.
		Viktoras Kulvinskis, M.S. Co-Director Hippocrates Health Institute, "Love Your Body or how to be a live food lover", 1974.
		The Sprout House Article from Newspaper.
		New Prices - New Products, July 1985 order form.
		Steve Meyerowitz, Indoor Vegetable Kit, The Sprout House.
		The Sprout House Newsletter, Issue #15, August, 1992.
		Sproutman's Exotic Seeds for Sprouting 100% Organically Grown Order Form.
		Complaint for Patent Infringement (Brassica Protection Products, LLC v. The Sproutman, Inc. dated September 20, 1999.
		Murry Tizer's Answer, Affirmative Defenses and Counterclaims dated June 28, 1999
		The Sproutman, Inc.'s Answer, Affirmative Defenses and Counterclaims dated June 28, 1999
		Request for Reexamination of U.S. Patent No. 5,725,895 filed October 11, 1999
EXAMINER		DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FOLEY & LARDNER
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3000 K STREET, N.W.
WASHINGTON, D.C. 20007-5109
RICHARD C. PEET
202-672-5483

703.308.4611

Examiner Kimberly Jordan
USPTO Group 1610

COURTESY COPY
PREVIOUSLY FILED DOCUMENT

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

02/14/1998	RECEIVED	00000013	00997813
01	PC1501		395.00 DP
02	PC1502		44.00 DP
03	PC1502		41.00 DP

PTO-1556
(5/87)

CSC017700

Class Number:

424/45

Author

Fahely

FIRST ACTIONS

12/24/9

ser # 08/997,813

Title:

- ☒ Restriction (if necessary).
☒ Front cover initialed.
☒ Preliminary amendments all entered. Check back of file.
☒ Full disclosure read - including 1449.
☒ Art Classified - use 1449 and background of disclosure.
☒ Brief Application & mark it on wrapper.
☒ Shoes searched - write it down on the file wrapper!
☒ APS ☒ CAS searched. - mark it on wrapper
☒ Insert serial # (07/---,---) and AU.
☒ Claims 1 - 7 are presented for examination . . . 01
☒ Restriction to one of the following . . . 8.08
☒ The amendment received on -/-/-- has been entered. . .
☒ Acknowledge any priority 2.18 - 2.26.
☒ Title 6.11.
☒ Oath - esp. citizenship, address and signatures 6.05.
☒ Abstract - length, compnds used, impropr. lang. 6.12-.16
☒ Informal Drawings 6.22-6.27
☒ 112s: 1st, 2nd & 4th. (1) 7.32 (2) 7.34
☒ 102s & 103s: check for type of utility. 7.20, 7.20.2, 7.2
☒ 101s
☒ Note other references 7.96-01
☒ No claims allowed: / Contact Dr. Gary 7-96-02
☒ Write an index card.
☒ Update search notes. (on file wrapper)
☒ Update index of claims. (on file wrapper)
☒ 225 4th. amendments. check for drawings (look for 948.)
☒ Count sheet (signed and dated).
☒ 225 signed! - go back and insert letters in action.
☒ signed copy of 1449.
☒ two (2) copies of action.
☒ put unnecessary stuff in back of folder.
☒ put references to be copied in front.

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CODE SHEET FOR CONTINUING DATA

Line	Code	Serial No.	Filing Date	Status	Document No.	Issue Date
104	74	08/528858	9-15-95	01	5725875	
105						
106						
107						
108						
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Condition and Status Codes for Continuing DataCONDITION CODE

71	Continuation of application No.
81	which is a continuation of application No.
91	and a continuation of application No.
72	Continuation-in-part of application No.
82	which is a continuation-in-part of application No.
75	and a continuation-in-part of application No.
74	Division of application No.
84	which is a division of application No.
76	and a division of application No.
86	, said application No.
89	Application No.
90	and application No.
92	each
65	filed as application No.
66	Substitute for application No.
68	Provisional application No.

STATUS CODE

01	Patent No.
03	abandoned
04	SIR No.

NOTE I: When the codes 86 and 92 are used, they must be followed by 81, 82 or 84 – conditions beginning with "which is"

NOTE II: Codes 71, 72 and 74 may be used only on the first line; one of them must be used on the first line in regular continuing data. 66 or 68 may be used on the first line in Substitute or Provisional cases. Remember, however, that if there is a Provisional and other continuing data, the Provisional is always listed last.

2F

PATENT APPLICATION FEE DETERMINATION RECORD Effective October 1, 1997					Application or Docket Number 9978/3	
CLAIMS AS FILED - PART I						
(Column 1)		(Column 2)		SMALL ENTITY TYPE <input checked="" type="checkbox"/>		OR
FOR	NUMBER FILED	NUMBER EXTRA		RATE	FEE	OTHER THAN SMALL ENTITY
BASIC FEE				395.00		790.00
TOTAL CLAIMS	24	minus 20 =	4	x\$11=	44	OR x\$22=
INDEPENDENT CLAIMS	4	minus 3 =	1	x41=	41	OR x82=
MULTIPLE DEPENDENT CLAIM PRESENT				+135=		OR +270=
				TOTAL	780	OR TOTAL
* If the difference in column 1 is less than zero, enter "0" in column 2						
CLAIMS AS AMENDED - PART II						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY OR
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE	OTHER THAN SMALL ENTITY
Total	20	Minus	24	x\$11=		x\$22=
Independent	2	Minus	4	x41=		x82=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+135=		OR +270=
				TOTAL ADDIT. FEE	—	OR TOTAL ADDIT. FEE
AMENDMENT A						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY OR
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE	OTHER THAN SMALL ENTITY
Total	*	Minus	**	x\$11=		x\$22=
Independent	*	Minus	***	x41=		x82=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+135=		OR +270=
				TOTAL ADDIT. FEE		OR TOTAL ADDIT. FEE
AMENDMENT B						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY OR
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE	OTHER THAN SMALL ENTITY
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Independent	*	Minus	***	x41=		x82=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				+135=		OR +270=
				TOTAL ADDIT. FEE		OR TOTAL ADDIT. FEE
AMENDMENT C						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY OR
CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE	OTHER THAN SMALL ENTITY
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Independent	*	Minus	***	x41=		x82=
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				TOTAL ADDIT. FEE		OR TOTAL ADDIT. FEE
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20." *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3." The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

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POSITION	ID NO.	DATE
CLASSIFIER	16	3698
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SPEC. HAND		
FILE MAINT.		
DRAFTING		

INDEX OF CLAIMS.

Claim	Date
Final Original	2/25/98
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Claim	Date
Final Original	2/25/98
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SYMBOLS

✓ Rejected
 - Allowed
 (Through numbers) Canceled
 + Restricted
 N Non-rejected
 I Interference
 A Appeal
 D Objected

(LEFT INSIDE)

SEARCHED			
Class	Sub.	Date	Exmr.
424	94.1	9/21/98	(KJ)
514	24	↓	↓
	514	↓	↓
	515	↓	↓
above to date			KJ
2/25/99			

SEARCH NOTES		
	Date	Exmr.
APSD & CAS (online)	9/21/98	KJ
APSD + CAS: glucosinolat?, crucifer?, sprout?, brassicag, phase 2 enzyme w/cancer?, Carcinogen?, chemop- protect?		

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.
424	94	2/25/99	(KJ)
514	24	↓	↓
	514	↓	↓
	515	↓	↓

(RIGHT OUTSIDE)